

ABSTRACT OF THE DISCLOSURE

The present invention provides a nitride semiconductor  
5 laser by which stable high power room-temperature  
continuous-wave oscillation in fundamental mode is possible.  
A semiconductor laser diode comprising: a GaN layer; a first  
conductive type nitride semiconductor layer formed on said  
GaN layer and made of  $\text{Al}_x\text{Ga}_{1-x}\text{N}$  ( $0.04 \leq x \leq 0.08$ ); a first  
10 conductive type clad layer formed on said first conductive  
type nitride semiconductor layer and made of nitride  
semiconductor; a core area formed on said first conductive  
type clad layer and made of nitride semiconductor, said core  
area including an active layer to emit light by electric  
15 current injection; and a second conductive type clad layer  
formed on said core area and made of nitride semiconductor.

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